

WILDLIFE MANAGEMENT SUBUNIT - 16A - Manti-Nebo, Nebo

Boundary Description

Utah, Juab, Millard and Sanpete counties - Boundary begins at the junction of Interstate 15 and Highway US-6 in Spanish Fork; southeast on US-6 to Highway US-89 at Thistle Junction; south on US-89 to Gunnison and Highway SR-28; north along SR-28 to Interstate 15 at Nephi; north along I-15 to US-6 in Spanish Fork.

Management Unit Description

The Manti-Nebo management unit incorporates most of the old North and South Nebo deer herd units.

The old North Nebo deer herd unit included about 490,240 acres. Physiographically, the unit was dominated by high mountains such as Santaquin Peak, Bald Mountain, and Mount Nebo. Mount Nebo represents the southernmost extension of the Wasatch Range. These mountains constitute the heart of a diverse and productive summer range making up about 29% of the unit. Normal winter range makes up about 32% of the area. The Mount Nebo summer range has a long history of high hunting success and depredation problems, a growing elk herd, and limited winter range.

The principal limiting factor and management concern on the unit is the lack of good condition winter range, especially severe range on the west side of the unit. In this area, from Spanish Fork Canyon south to Nephi, the normal winter range averages 2 miles or less in width. Severe winter range is even more narrow, ranging from as narrow as a few hundred yards, up to 1½ miles. Total severe winter range accounts for only about 12% of the area. However, the winter range on the east and south sides of the unit is more expansive, and not nearly as critical. Some of the major problems related to the limited winter range on the unit, especially low elevation severe winter range, include: restricted access to traditional wintering areas west of I-15, predominately private ownership of critical ranges (63% of normal winter range), and agricultural depredation. To remedy the situation, the Division of Wildlife Resources has acquired approximately 12,800 acres of winter range in the unit (7% of winter range) and has attempted treatments and rehabilitation in these critical areas. The Nebo unit remains on the list of top deer herd units requiring winter habitat revegetation action. The available winter range, especially critical areas on the west side of the unit, remains threatened by development, mismanagement, and a high fire hazard from cheatgrass.

Key Areas

The key areas identified and sampled with 12 trend studies in 1983 are still priority areas. Three new studies were added in 1989. A majority of the studies are on Division land. However, much of the critical range is under private ownership and was not sampled due to restricted access and limited management opportunities. The 15 permanently marked trend studies originally read in early August 1983 were reread in mid-July of the drier year of 1989, and then again in late May of 1997 and 2002. All sample big game winter range areas, although many sites had some evidence of summer deer occupancy. The studies range in elevation from 5,000 feet to higher elevation sites (about 6,500 feet) in Rees Flat and Big Hollow. The prominent winter range vegetation types that were sampled include: mixed oak/big sagebrush, sagebrush/grass, mountain brush, bitterbrush, and cliffrose.

The San Pitch Mountains make up the majority of the old South Nebo herd unit. This low mountain range contains all of the summer range on the unit, 40% of the area. The surrounding foothills and western slopes provide winter range which makes up the remaining 60% of the range. The upper limit of the winter range approximately follows the 7,000 foot contour, but extends to 8,000 feet on the south exposure in canyons on the west side of the unit. Twenty-five percent of the winter range was classified as severe winter range in the

1976 range inventory. The upper limit of severe winter range is 6,000 feet, while the lower limit (5,200 feet) of the winter range is restricted by highways, reservoirs, agriculture, and small communities.

In 1983, four of the permanent range trend studies were established on severe winter range. Their elevation ranged from 5,520 to 6,000 feet. Two chained areas were also sampled. One study is in a cliffrose type, the other in a mountain brush community. These studies were initially read in mid-August 1983. They were reread in mid-July 1989, then again in late May and early June of 1997 and 2002. Three new trend studies were established in 1989 and reread in 1997 and 2002.

The Division has acquired several parcels of land totaling 7,200 acres, or 5% of the winter range. Further habitat acquisition and rehabilitation are necessary to adequately maintain the winter range. This unit has been put on the list of most important deer herd units for future winter range land purchases.

SUMMARY

WILDLIFE MANAGEMENT UNIT - 16A - NEBO

Twenty trend studies occur within the unit. Fifteen trend studies were established in 1983. All sites were reread in 1989, and an additional 5 sites were established at that time. Nineteen sites were reread in 2002. One site, Strawberry Highline Canal, was suspended. It occurs in an area dominated by oak brush with shrinking sagebrush interspaces. The area receives little deer or elk use. All sites in the unit sample winter range. However, trend studies at Nebo Creek (#5), Rees Flat (#11), and Big Hollow (#14) occur in the upper reaches of the winter range and are unavailable during severe winters due to deep snow. Most of the trend studies on the unit sample the critical winter ranges on the Nebo unit between I-15 and the Wasatch Mountains.

Trends are down for soil, browse, and herbaceous understories for 3 sites at Santaquin Bench (#2), Nebo Creek (#5), and Birch Creek (#9), due to 3 separate wild fires which burned on Mount Nebo in 2001. All non-sprouting shrubs were completely eliminated. Soil trends were slightly down on 3 additional sites, Wash Canyon Canyon (#4), Willow Creek (#7), and Gardner Canyon (#8). Browse trends were slightly down at North Canyon (#10), Steele Ranch (#13), and Chicken Creek (#17). Herbaceous trends were stable to improving on most sites except for the 3 burned sites and Gardner Canyon (#8) and Deep Creek (#18). Wildfire continues to be a concern on several other sites in the unit due to abundance of winter annuals, primarily cheatgrass. Four sites on the Nebo Unit, Willow Creek (#7), Gardner Canyon (#8), Tithing Mountain (#12), and Levan Farm Chaining (#16), have not yet burned but contain an abundance of cheatgrass. Three of these sites support cliffrose and the other is sagebrush, none of which resprout after fire. Birch Creek burned in 2001, yet the site still supports enough cheatgrass to continue as a fire hazard. Most of the shrubs were burned on this site but serviceberry is resprouting.

Perennial grasses in the herbaceous understories on Unit 16A have, on average, remained relatively stable in sum of nested frequency and cover. Sum of nested frequency of forbs has declined but the average number of species sampled per site has remained similar. Even with drought conditions for the past few years, the annual cheatgrass has declined only slightly in cover and nested frequency since 1997. The poor value perennial, bulbous bluegrass, has increased significantly on several sites.

Broom snakeweed is abundant on many sites in the unit. It has declined dramatically on several sites due to drought conditions. In addition, the surviving plants show increased decadence.

Trend studies on the Nebo unit were established in 1983 during a period of above normal precipitation. The sites were reread during a drought period in 1989. Precipitation recorded at Nephi showed below normal annual precipitation between 1988 and 1991. The spring (April - June) of 1989 was extremely dry with only 58% of normal precipitation recorded. Spring precipitation was 143% of normal in 1997. Trend studies were read in late May and early June of that year. Annual precipitation in 2001 was only 77% of normal and the fall period (Sept - Nov) was extremely dry with only 34% of the normal precipitation recorded. Spring precipitation in 2002 was only 60% of normal. Trend studies were monitored in late May of 2002, and the trends are reflective of these dry conditions.

A trend summary of each study is listed below.

SUMMARY

	Category	1983	1989	1997	2002
16A-2 Santaquin Bench	soil	est	2	4	1
	browse	est	1	3	1
	herbaceous understory	est	5	4	1
16A-3 Santaquin Hill	soil	est	5	3	3
	browse	est	2	3	3
	herbaceous understory	est	5	2	3
16A-4 Wash Canyon	soil	est	3	5	2
	browse	est	3	2	3
	herbaceous understory	est	4	3	3
16A-5 Nebo Creek	soil	est	4	3	1
	browse	est	3	3	1
	herbaceous understory	est	5	3	1
16A-6 Hop Creek Browse	soil	est	4	3	3
	browse	est	3	3	4
	herbaceous understory	est	3	5	3
16A-7 Willow Creek	soil	est	3	3	2
	browse	est	3	3	3
	herbaceous understory	est	3	2	3
16A-8 Gardner Canyon	soil	est	3	4	2
	browse	est	2	3	3
	herbaceous understory	est	3	3	2
16A-9 Birch Creek	soil	est	3	3	2
	browse	est	3	3	1
	herbaceous understory	est	5	2	2

1 = down, 2 = slightly down, 3 = stable, 4 = slightly up, 5 = up, est = established, susp = suspended, NR = not read

	Category	1983	1989	1997	2002
16A-10 North Canyon	soil	est	3	3	4
	browse	est	3	3	2
	herbaceous understory	est	4	4	4
16A-11 Rees Flat	soil	est	3	4	3
	browse	est	3	5	5
	herbaceous understory	est	3	4	3
16A-12 Tithing Mountain	soil	est		3	3
	browse	est		3	3
	herbaceous understory	est		4	3
16A-13 Steele Ranch	soil	est		3	3
	browse	est		3	2
	herbaceous understory	est		3	3
16A-14 Big Hollow	soil	est		4	3
	browse	est		3	3
	herbaceous understory	est		4	3
16A-15 Old Pinery	soil	est	3	3	3
	browse	est	5	5	5
	herbaceous understory	est	5	5	4
16A-16 Levan Farm Chaining	soil	est	3	3	3
	browse	est	2	4	5
	herbaceous understory	est	3	3	3
16A-17 Chicken Creek	soil	est	3	3	3
	browse	est	1	3	2
	herbaceous understory	est	4	2	3
16A-18 Deep Creek	soil	est	2	3	1
	browse	est	3	3	3
	herbaceous understory	est	4	3	2

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	Category	1983	1989	1997	2002
16A-19 Flat Canyon	soil		est	3	3
	browse		est	3	3
	herbaceous understory		est	3	3
16A-20 Triangle Ranch	soil		est	3	3
	browse		est	4	3
	herbaceous understory		est	5	3
SUSPENDED STUDIES					
16A-1 Strawberry Highline Canal	soil	est	3	3	susp
	browse	est	3	3	susp
	herbaceous understory	est	4	3	susp

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